



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,557	02/19/2004	Tomoo Yamasaki	CU-3590 RJS	5655

26530 7590 09/19/2005

LADAS & PARRY LLP
224 SOUTH MICHIGAN AVENUE
SUITE 1600
CHICAGO, IL 60604

EXAMINER

SOWARD, IDA M

ART UNIT PAPER NUMBER

2822

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/782,557	Applicant(s) YAMASAKI ET AL.	
	Examiner Ida M. Soward	Art Unit 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2-19-04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the election filed September 1, 2005.

Election/Restrictions

Applicant's election without traverse of Group I, claims 1-8 and 11-12 in the reply filed on September 1, 2005 is acknowledged.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inagaki et al. (US 6,876,554 B1).

In regard to claim 1, Inagaki et al. teach a capacitor element 20 configured to mount a semiconductor element 90 thereon, the capacitor element 20 comprising: a base 50 & 150; and a capacitor part provided on the base 50 & 150, wherein the base

Art Unit: 2822

50 & 150 is made of a resin (Figure 8, columns 20-21, lines 34-67 and 1-51, respectively).

In regard to claim 2, Inagaki et al. teach the capacitor part includes two opposing electrodes and a dielectric layer interposed therebetween (Figure 8, columns 20-21, lines 34-67 and 1-51, respectively).

In regard to claim 11, Inagaki et al. teach a semiconductor device substrate on which a semiconductor element may be mounted, the semiconductor device substrate comprising: a substrate body 30 having a bottom surface that serves as a mounting surface in which external connection terminals 76D are arranged; and a capacitor element 20 including: a base made of a resin; a capacitor part including two opposing electrodes and a dielectric layer interposed therebetween; a plurality of terminals 76U in a top surface of the capacitor element 20; and a plurality of terminals in a bottom surface of the capacitor element 76D, the capacitor element 20 being embedded in the substrate body 30, a top surface of the capacitor element 20 being exposed at a top surface of the substrate body 30 and serving as a surface on which the semiconductor element 90 may be mounted (Figure 8, columns 20-21, lines 34-67 and 1-51, respectively).

In regard to claim 12, the semiconductor element 90 being mounted on a top surface of the semiconductor device substrate at which the capacitor element 20 is exposed (Figure 8, columns 20-21, lines 34-67 and 1-51, respectively).

However, Inagaki et al. fail to explicitly teach a base made of a resin whose the coefficient of linear expansion is adjusted in accordance with a coefficient of linear expansion of the semiconductor element.

And in regard to a base made of a resin whose the coefficient of linear expansion is adjusted in accordance with a coefficient of linear expansion of the semiconductor element, claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function, In re Danly, 263, F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims cover what a device is, not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention for the capacitor element as taught by Inagaki et al. to achieve the characteristics of coefficient of linear expansion as in the claimed invention to improve the efficiency of the capacitor element.

Allowable Subject Matter

Claims 3-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to capacitor elements:

Chakravorty et al. (US 6,775,150 B1)	Ho et al. (US 2003/0217858 A1)
Kaneda et al. (US 6,223,429 B1)	Taira et al. (US 6,395,658 B1)
Takemaura et al. (US 6,184,577 B1).	

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M. Soward whose telephone number is 571-272-1845. The examiner can normally be reached on Monday - Thursday 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2822

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IMS

September 15, 2005

John M. Szwarc
All 2822